AMENDMENTS TO THE SPECIFICATION

Please replace the abstract with the following abstract:

A method that allows the easy generation of low-density parity-check codes that can realize superior error-correcting characteristics. A processor of a transmission line encoder constructs parity check matrix H from partial matrix H1 of m rows and k columns on the left side and partial matrix H2 of m rows and m columns on the right side. The processor generates partial matrix H2 as a unit matrix. The processor generates partial matrix H1 to satisfy the conditions that, when any two rows contained in partial matrix H1 are selected, the two rows have periods that are relatively prime, or when the periods are identical, the two rows have different phases. The processor then joins partial matrix H1 and partial matrix H2 to generate parity check matrix H.